

REMARKS

Reconsideration and continued examination of the above-identified application are respectfully requested.

At page 2 of the Office Action, the Examiner rejects claims 1, 2, 4, 5, 7, 8, and 10 under 35 U.S.C. §102(b) as being anticipated by Sheridan et al. (U.S. Patent No. 6,055,091). The Examiner asserts that Sheridan et al. discloses a twisting-cylinder display comprising of an arrangement of capsules, wherein each capsule comprises a bichromal ball having two hemispheres. The Examiner then asserts that one of the hemispheres has at least a surface comprising a modified colored pigment having attached at least one organic group and the other hemisphere has at least a surface with a different color and different electrical properties, wherein each ball is enclosed within a shell. The Examiner also asserts that a liquid is present between the shell and the ball so that the ball is free to rotate in response to an electrical field. Additionally, the Examiner asserts that the capsules in Sheridan et al. are located between first and second electrodes, wherein at least one of the electrodes is substantially visually transparent. The Examiner also asserts that Sheridan et al. discloses means for creating a potential difference between the two electrodes, wherein the potential difference causes the bichromal balls to rotate toward one of the electrodes. The Examiner further asserts that Sheridan et al. discloses an arrangement of particles having attached at least one organic group having an ionic group, ionizable group, or both, and wherein an optical response results from the rotation of the particles in a fluid. Moreover, the Examiner asserts that Sheridan et al. shows a bichromal ball having two segments, wherein one of the segments has at least a surface comprising a modified color pigment having attached one organic group and the other segment has at least a surface with a different color and different electrical properties. For the following reasons, this rejection is respectfully traversed.

Claim 1 of the present invention, in part, relates to a gyricon display comprising an arrangement of capsules, wherein each capsule comprises a bichromal ball having two hemispheres; wherein one of the hemispheres has at least a surface comprising a modified colored pigment having attached at least one organic group and the other hemisphere has at least a surface with a different color and different electrical properties. Each ball in claim 1 is enclosed within a shell wherein a liquid is present between the shell and the ball so that the ball is free to rotate in response to an electrical field. Claim 2 of the present invention, in part, relates to an arrangement of

particles, wherein an optical response results from the rotation of the particles in fluid wherein a portion of the particles have attached at least one organic group having an ionic group, ionizable group, or both.

Sheridon et al. does not teach or suggest the presence of a modified colored pigment having attached at least one organic group. Furthermore, there is no mention in Sheridan et al. of particles in a fluid, wherein a portion of the particles have attached at least one organic group having an ionic group, ionizable group, or both. The white and black pigments making the white face and the black face in Sheridan et al. do not include at least one organic group attached thereon, or at least one organic group attached thereon having an ionic group, ionizable group, or both. Sheridan et al. only describes a cylinder that is electrically dipolar. Thus, a modified colored pigment having attached at least one organic group or particles having attached at least one organic group having an ionic group, ionizable group, or both is clearly missing and is not taught or suggested in Sheridan et al.

With respect to independent claims 2, 5, 7, and 10, these claims also include a modified colored pigment or a particle having attached at least one organic group or a modified colored pigment having attached at least one organic group having an ionic group, ionizable group, or both. These independent claims are also patentable for the same reasons as set forth above with respect to patentability of claims 1 and 2.

Claim 4 is dependent directly on claim 1 and claim 8 is dependent directly on claim 7. As such, the reasons set forth with respect to patentability of claims 1 and 7 would also apply to these claims. Accordingly, for these reasons, this rejection should be withdrawn.

At page 5 of the Office Action, the Examiner rejects claims 6, 11, and 12 under 35 U.S.C. § 102(b) as being anticipated by Sheridan (U.S. Patent No. 5,919,409). The Examiner asserts that Sheridan discloses a twisting-ball display comprising a bichromal ball having two or more segments. According to the Examiner, one of the segments comprises a modified colored pigment having at least one organic group and the other segment has a different color and different electrical properties. The Examiner also asserts that the ball is enclosed within a shell wherein a liquid is present between the shell and the ball so that the ball is free to rotate. For the following reasons, this rejection is respectfully traversed.

Sheridon shows balls for a highlight color gyricon display made with segments of different zeta potentials, so that the balls can be oriented to any of the three possible orientations by application of suitable electric fields.

Sheridon does not teach or suggest the presence of a segment comprising a modified colored pigment having attached at least one organic group and another segment that includes a different color and different electrical properties. Sheridan's indication of segments of different zeta potentials does not teach or suggest the segments comprising a modified colored pigment having attached at least one organic group as claimed in the present invention. If the Examiner believes that segments of different zeta potentials are the same as segments comprising a modified colored pigment having attached at least one organic group, the Examiner is respectfully requested to indicate the column and the line numbers in which Sheridan teaches or suggests segments comprising a modified colored pigment having attached at least one organic group and other segments having a different color and different electrical properties. As such, for the reasons set forth above, claims 6, 11, and 12 are patentable. Accordingly, this rejection should be withdrawn.

At pages 6 and 7 of the Office Action, the Examiner rejects claims 3, 9, and 13 under 35 U.S.C. §103(a) as being unpatentable over Sheridan et al. (U.S. Patent No. 6,055,091) in view of Sheridan (U.S. Patent No. 5,919,409). With respect to claims 9 and 13, the Examiner asserts that Sheridan et al. discloses a twisting-cylinder display comprising an arrangement of capsules, wherein each capsule comprises a bichromal element having at least two segments. According to the Examiner, one of the segments comprises a modified colored pigment having attached at least one organic group and the other segment has a different color and different electrical properties. The Examiner then asserts that Sheridan et al. discloses that each element is enclosed within a shell wherein a liquid is present between the shell and the element so that the element is free to rotate in response to an electrical field. The Examiner also asserts that the arrangement of the capsules in Sheridan et al. is located between the first and second electrodes, wherein at least one of the electrodes is substantially visually transparent. The Examiner further asserts that Sheridan et al. discloses means for creating a potential difference between the two electrodes, wherein the potential difference causes the bichromal elements to rotate toward one of the electrodes. The Examiner, however, acknowledges that Sheridan et al. fails to disclose that each capsule comprises polychromal elements. The Examiner then asserts that, within the same field of endeavor, Sheridan (U.S. Patent No. 5,919,409) discloses a twisting ball display with each capsule having polychromal elements. In view of this, the Examiner concludes that it would have been obvious to a person skilled in the art to construct the twisting-cylinder display with each capsule comprising a polychromal element. For the following reasons, this rejection is respectfully traversed.

As explained earlier, neither Sheridan et al. or Sheridan teach or suggest the presence of a polychromal element having at least two segments, wherein one of the segments comprises a modified colored pigment having attached at least one organic group and the other segment having a different color and different electrical properties. As such, the combination of the two references also does not teach or suggest a modified colored pigment having attached at least one organic group. Accordingly, independent claim 9 is quite different from Sheridan et al. in view of Sheridan; therefore, the rejection should be withdrawn.

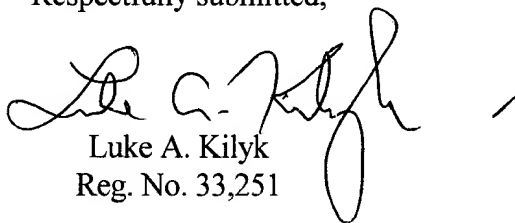
Claim 3 is dependent directly on claim 1 and claim 13 is dependent directly on claim 9. As such, the reasons set forth above with respect to claims 1 and 9 would also apply to these claims; therefore, claims 3 and 13 are also patentable. Accordingly, for these reasons, this rejection should be withdrawn.

If there are any remaining questions, the Examiner is encouraged to contact the undersigned by telephone.

CONCLUSION

If there are any other fees due in connection with the filing of this response, please charge the fees to Deposit Account No. 03-0060. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,


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